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make the ruling effective, they refused to accredit any institution that did not comply with this, and insisted that accredited institutions give certificates of proficiency only to such students as had completed that course. Of course, this resulted in a number of schools being dropped from the accredited list and materially improving the situation.

However, as the law stands, there

are still so many ways of evading it that conditions are not at all what they should be. The thing that gives most encouragement is the attitude of our State Board. When the existing evils were explained carefully to them, they immediately became interested and have been consulting some of the leading musicians of the state as to the best methods of procedure.

The School Survey Movement and Public School Music

By J. BEACH CRAGUN, *University of Chicago.*

(EDITOR'S NOTE:—This abstract of Mr. Cragun's New York paper, will serve as an excellent introduction to the very specific discussion, with illustrations, which he will conduct on a Typical Public School Music Survey at our Grand Rapids Meeting.—P. W. D.)

The application of surveys to school surveys is of recent date. It is the last decade which has witnessed the institution of methods that promises to put the school systems on a basis which the business world recognizes in its quantitative measurement of results. The first surveys were made in terms of opinion, and the work of school systems was evaluated in terms of the opinion of the men conducting the survey. Opinions, however, are not scientific unless the expression of the mass rather than the individual, and so Dr. Bobbitt and the other men to whom school surveys owe their position, began seeking more scientific means of evaluation, and these means are at present largely in the state of experimentation and elaboration. Hence it is that the ultimate value and bearing of school surveys may so far only be expressed in tentative terms.

With the publication in 1911 of

"The Principles of Scientific Management," by F. W. Taylor, the business world awoke to a realization of the importance of the application of scientific methods. For such application as Mr. Taylor pointed out was able to raise the efficiency of pig-iron handlers 60 per cent, and it reduced the number of movements of bricklayers from 18 to 5 movements per brick, with the result that men laid 350 bricks instead of 120 per hour.

Business efficiency then became the topic of hour in the commercial world. This being the case, it was but natural that business looked with scant favor on the operations of expensive school systems, the results of which were good only because the man at the head of the school said they were good, and in which there were no methods of checking up as to results. This idea was expressed by an editorial in the Springfield Republican in 1912.

"New York City spent last year

nearly thirty-five million dollars for education and hardly a dollar of it was spent for measuring results. Are educators supposed to be so expert that their methods can not be improved upon?"

Men and women began asking, "Is Arithmetic well taught in our schools?" "Are the reading methods employed in this city as efficient as those employed in certain other cities?" "Do our children, under certain methods of instruction in penmanship, write as well as those of certain other places and under different methods of instruction?" "Do our children who spend three times as much time in spelling class as the children of a certain other city, spell three times as well?" "Are the business methods employed by our Board of Education as efficient as those employed by other cities? If not, why are they not so efficient, and where can our ways be made more efficient?" The putting of these and similar questions on the part of so many people lead to the demand that impartial experts from without be brought in whose purpose should be a survey of the school system, which survey should scientifically compare the given systems and its results with other systems and their results. The school survey then, amounts to a taking of educational stock by the public, and corresponds in many ways to the long established invoice of the business world.

Although closely following the business efficiency movement, the survey movement was not able to take over all the methods employed in business, but had to work out its own technic upon which were based the conclusions arrived at. Methods of testing results are being

worked out by subject, and standards of attainment are being set up by grade. There is little of theory about the establishment of these standards. For instance, certain specimens of hand writing are scientifically chosen as being representative of the *average work* of *thousands* of children of a certain grade and from many cities. Or a certain mathematical process is found to be one which the majority of children of a grade have been found able to do. Standards of this type are at present best developed in the subjects of arithmetic, reading and handwriting, although similar standards are being established in nearly all the other subjects.

As a result of all this, not only are school systems being subjected to the test of a survey, but they are establishing means within their own systems of assuring themselves that such a survey would not find them wanting in any particular. Boston has established an educational investigation and measuring department. New York and Oakland have departments of reference and research. In New Orleans and Detroit there are departments of education and research. In Kansas City there is a director of efficiency and research and Rochester has its bureau of efficiency. The movement is new. It may be that the standards already set up for the different grades are false. It may be that the methods of testing out results within the system do not obtain, in all cases, representative results. It may be that the investigators working out of the new methodology have had excluded from their sight the broader phase prerequisite to ultimately satisfactory conclusions. Yet it is certain that the steps

already taken have been taken in the right direction, and that sooner or later there will be worked out adequate and trustworthy means of evaluating the educational result of a school system.

We are interested not only in the general matter of the school surveys and in the tests employed by it, but also in its application to the different subjects and to music in particular. Methods of testing have been worked up and standards established in the different subjects, as follows: in arithmetic by Courtis and Stone; in hand writing by Ayres, Freeman and Thorndike; and in English composition by Hilligas and Ballou; in spelling by Ayres and Buckingham; in reading by Courtis, Gray, Kelly and Thorndike; and in teaching efficiency by Elliot and Boyce.

In music but little has been done. So far as is known to the present writer, he is the only one who has undertaken a survey in this subject. He made tests of 4115 children in St. Louis, Missouri, Grand Rapids, Mich., and Chicago, Illinois, which will serve as a basis on which will be arranged tentative scales.

You ask, in how far, to what end and in what way may these survey test methods be applied to public school music. This is very much open to discussion and brings up a phase of the matter beyond the limits set for the present paper. However, a few explanations here may be of great importance. It is to be remembered that such methods of measuring results as those mentioned or hinted at above may be applied only to the formal side of any given branch of instruction. The inspirational phase, whether of English, literature, music, or what not, does not

lend itself to systems of measurement. As a result, it is certainly true that the methodology employed by the school survey is more applicable to some studies than to others, but it is none the less certain that whatever phase of a given subject may be covered in this way is going to be subjected to some scientific processes of evaluation.

CONCLUSION.

Since school systems are being more and more subjected to the social invoice of the school survey, and since music is certain to be brought beneath the light of this kind of investigation more and more, some of us must make it our business to work out principles under which our subject should be so scrutinized, and methodology whereby this scrutiny may bring results representative of the ability of the children. Allow me to be specific in this detail. It was stated above that the formal side of a subject is that which has been most considered by school survey. The formal phase of music instruction may be said to come mostly under the head of sight reading. If this be so, methods of testing which will truly represent the sight reading ability of the children must be worked out. If there be other formal phases, tests should be devised which cover them as well.

The school survey is established. Its application has had significant results. Its methodology may be faulty, but it is beyond question being rapidly and materially improved. The limits of its application to public school music, and the methodology of its procedure within these limits are open questions with which it behooves us to concern ourselves.